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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/525,092

02/23/2005

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OGA-013

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EXAMINER

TOSCANO, ALICIA

ART UNIT

PAPER NUMBER

1796

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No. 10/525,092	Applicant(s) KIMURA ET AL.	
	Examiner Alicia M. Toscano	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 16 November 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1 and 5-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 5-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |                                                                                                            |                                                                                         |
|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____                                                |

## **DETAILED ACTION**

### ***Priority***

1. Receipt is acknowledged of the translation of JP 2002-254201 and JP 2002-377241 papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Drawings***

2. Objection to the drawings is removed. The drawings the Examiner was confused about, dated 4/3/07 in IFW, correspond to the drawings for the translations of foreign priority.

### ***Claim Objections***

3. Objection over claim 3 is removed since said claim has been cancelled.

### ***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claims 1, 5-11, 13, 15, 16, 19, 20, 21, 23 and 26- 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishimura (JP 2001-131827, English translation provided) in view of Tan (WO 0212395, US 6710135 is used as an Equivalent English document) and in further view of Kondo (US 5593778) and Zeitler (US 5811508).

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Nishimura discloses polylactic acid based flat yarns. Said yarns comprise polylactic acid with molecular weight 90,000-110,000 [0005], and a lubricant in the amount of 0.5-5 wt% [0007]. The lubricant may be ethylene bis-oleic amide and the like [0005], or an alkyl-substituted fatty acid monoamide, as required by Claims 1 and 5. Nishimura does not disclose the use of melt spun yarns.

Tan discloses polylactic acid resin compositions. Said compositions are used for nonwoven fabrics and yarn (Column 3 Lines 25-26). Said polylactic acid has a molecular weight from 2000-500,000 (Column 6 Line 60) and may contain a lubricant (Column 7 Line 44). Tan teaches the composition to be useful for tape yarn production as well as melt spun yarn (Column 10 Lines 26-39). Tan thusly teaches melt spinning and tape yarn formation to be functionally equivalent uses for the composition.

It would have been obvious to one of ordinary skill in the art at the time of the invention to include in Nishimura the use of melt spinning, as taught by Tan, as this technique is recognized in the art as a functional equivalent of tape yarn production.

Tan discloses that the tex or denier of the yarn is dependant on the end use but Tan does not disclose what range of tex is used (Column 12 Line 29). Kondo discloses biodegradable copolyester compositions. Said compositions are melt spun into fibers. The fineness of the fiber dictates the feeling of wearing, where thinner fibers are softer and thicker fibers are stiffer (Column 38 lines 39-52). Typical fineness is from 5-50 d (denier), or 0.5-5.5 tex, or 5-55 dtex (tex=denier/9).

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It would have been obvious to one of ordinary skill in the art at the time of the invention to include in Nishimura and Tan the use of 5-55 dtex fineness, as taught by Kondo, in order to increase the softness of the resulting article.

Nishimura and Tan include the elements set forth above. Tan does not disclose the carboxyl equivalence used for melt spinning fibers.

Zeitler discloses hydrolysis resistant polyester fibers. Zeitler discloses that the resistance of a polyester to hydrolysis depends greatly on the number of carboxyl end groups and that decreasing said end groups improves said hydrolysis (Column 1 lines 27-35). Zeitler further discloses that polyesters should contain less than 10 meq of carboxyl end groups for optimum hydrolysis results (Column 3 line 14). Use of melt spinning, the same technique as Tan, is disclosed in Column 8 lines 25-28.

It would have been obvious to one of ordinary skill in the art at the time of the invention to include in Nishimura and Tan the use of a carboxyl equivalent of less than 10 meq, as taught by Zeitler, in order to form a fiber with superior hydrolysis resistance. Nishimura, Tan, Zeitler and Kondo thusly meet all the limitations of newly amended claim 1.

As the composition requirements have been met, Examiner finds the properties of Claims 3, 4, 6, 7, 8, 9 and 31 to be inherent. Tan discloses the melt-spun and tape yarn to be used for filaments, false twist texturing, as staple fibers, as knitted fabric, as woven and nonwoven fabric and as carpet, as required by Claims 10, 16, 20, 21, 26-30. As the compositional requirements are met the Examiner finds the properties of Claims 11, 19, 20 and 23 to be inherent in Nishimura, Tan and Kondo.

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5. Claims 1, 3-11, 13, 15, 16, 19, 20, 21, 23 and 26-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Obuchi (US 6417294) in view of Tan (WO 0212395, US 6710135 is used as and Equivalent English document) in further view Kondo (US 5593778) and Zeitler.

Obuchi discloses films and articles formed from polyester compositions containing a nucleating agent. The polyester is polylactic acid having a molecular weight of 90,000-500,000 (Column 9 Line 39). The nucleating agent is 0.1-10 wt% of the composition (Column 6 Line 46) and comprises ethylenebislauramide, hexamethylenebisoleamide, and the like (Column 10 Lines 22-49), as required by Claims 1 and 5. Obuchi's composition is extrusion molded (Column 15 Lines 30-62). The molded article may be further used to form filaments and the like (Column 16 Line 50). Obuchi does not disclose the use of melt spun yarn.

Tan discloses polylactic acid resin compositions. Said compositions are used for nonwoven fabrics and yarn (Column 3 Lines 25-26). Said polylactic acid has a molecular weight from 2000-500,000 (Column 6 Line 60) and may contain a lubricant (Column 7 Line 44). Tan teaches the composition to be useful for extrusion molding production as well a melt spun yarns (Column 10 Lines 26-39). Tan thusly teaches melt spinning and extrusion molding to be functionally equivalent uses for the composition.

It would have been obvious to one of ordinary skill in the art at the time of the invention to include in Obuchi the use of melt spinning, as taught by Tan, as this technique is recognized in the art as a functional equivalent of tape yarn production.

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Tan discloses that the tex, or denier, or the yarn is dependant on the end use but Tan does not disclose what range of tex is used. Kondo discloses biodegradable copolyester compositions. Said compositions are melt spun into fibers. The fineness of the fiber dictates the feeling of wearing, where thinner fibers are softer and thicker fibers are stiffer (Column 38 lines 39-52). Typical fineness is from 5-50 d (denier), or 0.5-5.5 tex, or 5-55 dtex (tex=denier/9).

It would have been obvious to one of ordinary skill in the art at the time of the invention to include in Obuchi and Tan the use of 5-55 dtex fineness, as taught by Kondo, in order to increase the softness of the resulting article.

Obuchi and Tan include the elements set forth above. Tan does not disclose the carboxyl equivalence used for melt spinning fibers.

Zeitler discloses hydrolysis resistant polyester fibers. Zeitler discloses that the resistance of a polyester to hydrolysis depends greatly on the number of carboxyl end groups and that decreasing said end groups improves said hydrolysis (Column 1 lines 27-35). Zeitler further discloses that polyesters should contain less than 10 meq of carboxyl end groups for optimum hydrolysis results (Column 3 line 14). Use of melt spinning, the same technique as Tan, is disclosed in Column 8 lines 25-28.

It would have been obvious to one of ordinary skill in the art at the time of the invention to include in Obuchi and Tan the use of a carboxyl equivalent of less than 10 meq, as taught by Zeitler, in order to form a fiber with superior hydrolysis resistance. Obuchi, Tan, Zeitler and Kondo thusly meet all the limitations of newly amended claim

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As the composition requirements have been met, Examiner finds the properties of Claims 3, 4, 6, 7, 8, 9 and 31 to be inherent. Tan discloses the melt-spun and tape yarn to be used for filaments, false twist texturing, as staple fibers, as knitted fabric, as woven and nonwoven fabric and as carpet, as required by Claims 10, 16, 20, 21, 26-30. As the compositional requirements are met the Examiner finds the properties of Claims 11, 19, 20 and 23 to be inherent in Obuchi, Tan and Kondo.

6. Claims 13, 15, 24 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishimura, Tan, Zeitler and Kondo or Obuchi, Tan, Zeitler and Kondo, in further view of Anderson (US 4009513).

Nishimura, Tan, Zeitler and Kondo, and, Obuchi, Tan, Zeitler and Kondo include elements of the invention as discussed above. Nishimura, Tan, Zeitler and Kondo, and, Obuchi, Tan, Zeitler and Kondo do not include the use of fluid texturing to crimp the fiber, or the use of wound fibers.

Anderson discloses the production of yarn. Said yarn is disclosed to be wound on a beam prior to subsequent processing. Crimping, or texturing yarn, is disclosed in Column 1 Lines 34-41. Anderson discloses fluid texturing to be functionally equivalent to false twist texturing (Column 6 Lines 52-53). False twist texturing is disclosed by Tan, as set forth above.

It would have been obvious to one of ordinary skill in the art at the time of the invention to include in Nishimura, Tan, Zeitler and Kondo or Obuchi, Tan, Zeitler and

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Kondo, the use of fluid texturing, as taught by Anderson, since this is recognized in the art as being functionally equivalent to false twist texturing.

It would have been obvious to one of ordinary skill in the art at the time of the invention to include in Nishimura, Tan and Kondo or Obuchi, Tan and Kondo the use of winding the fiber on a beam, as taught by Anderson, in order to aid in handling the fiber for future processing.

7. Claims 12, 14, 17, 18 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishimura, Tan, Zeitler and Kondo or Obuchi, Tan, Zeitler and Kondo in view of Yamakita (US 2003/0079297).

Nishimura, Tan, Zeitler and Kondo, and, Obuchi, Tan, Zeitler and Kondo include elements of the invention as discussed above. Nishimura, Tan, Zeitler and Kondo, and, Obuchi, Tan, Zeitler and Kondo do not include the use of a smoothing agent to coat their fibers.

Yamakita discloses agents for coating biodegradable yarns (abstract). The biodegradable yarn may be polylactic acid [0003]. The yarns are coated with an aqueous solution in order to improve lubricity, cohesion and to prevent fuzzing and breaking (abstract). The solution comprises a polyether and/or polyether ester polymer [0007]-[0009] and [0021], or a smoothing agent. Said polyether component may comprise an alcohol, like methyl alcohol, butyl alcohol and the like [0024] and an alkylene oxide having 2-4 carbon atoms [0025], as required by the above Claims.

It would have been obvious to one of ordinary skill in the art at the time of the invention to include in Nishimura, Tan, Zeitler and Kondo or Obuchi, Tan, Zeitler and Kondo, the use of a polyether smoothing agent, as taught by Yamakita, in order to improve lubricity, cohesion and to prevent fuzzing and breaking.

### ***Conclusion***

#### ***Response to Arguments***

8. Applicant's arguments filed 11/16/07 have been fully considered but they are not persuasive. Applicant amends claim 1 to require a melting point of greater than 100C, a fineness of 0.1-10 dtex and a carboxyl equivalent of 40 or less. The melting point is inherent in the amides set forth above, specifically Nishimura discloses amides such as oleic amide (MP 140C) and Obuchi discloses ethylene bislauramide (MP 441C). The dtex is met as previously set forth and the carboxyl equivalent is newly addressed in view of Zeitler above. All the elements of the claims are thusly met.

9. Applicant argues there is no reasonable expectation that one would take a flat yarn (taught to be useful in a dtex range of greater than 500) and use it for melt spinning, since the two methods are taught as equivalents, and then to melt spin to a dtex of 5-55 dtex because Nishimura is limited to flat yarn production and Tan and Kond are limited to the specific compositions disclosed therein, said specific compositions different from that of Nishimura. Similar considerations are applied to Obuchi et al, wherein Obuchi teaches extrusion molding but does not teach melt spinning or the low dtex number of the claims.

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Examiner disagrees. As applicant further pointed out on pg 17 of the remarks, a flat yarn is cut from a thin sheet, not extruded and spun. Different techniques of forming fibers have different upper and lower limitations as to the fineness of the resulting product. With flat yarn the lower limit is limited to the fineness one can obtain from cutting said sheet. One would recognize that smaller diameters would be feasible when using a functionally equivalent processing technique such as melt spinning. That the compositions of Tan and Kondo are not the same as Nashimura is moot since Tan and Kondo are used solely to teach why one would use melt spinning (ie, it is a functional equivalent process to flat yarn formation) and why one would make the fibers more or less fine (ie, depending on the desired softness). Similar considerations are applied to Obuchi and the rejection stands as such.

10. Applicant argues the combinations of references fails to disclose or suggest the properties resulting from the use of the specific fatty acid amides of the invention and that applicant's claimed fibers are not disclosed in the art and thusly the properties are novel.

Examiner submits said arguments as moot. Since the compositional elements are met the properties would be inherent. Examiner requests data to the contrary. The rejection stands.

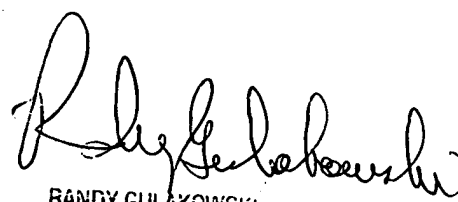
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alicia M. Toscano whose telephone number is 571-272-2451. The examiner can normally be reached on Monday to Friday 8:30 AM to 5 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on 571-272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AMT

  
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